III. REMARKS

1. Claims 1, 7-10, and 12-21 remain in the application. Claims 2-6 and 11 were previously cancelled without prejudice. Claims 1, 8, and 9 have been amended.

2. Applicants appreciate the courtesies extended by the Examiner during the Examiner's Interview of 12 September 2006.

3. Applicants respectfully submit that claim 8 as amended satisfies the written description requirement of 35 USC 112, first paragraph.

MPEP 2163.02 states:

> The courts have described the essential question to be addressed in a description requirement issue in a variety of ways. An objective standard for determining compliance with the written description requirement is, "does the description clearly allow persons of ordinary skill in the art to recognize that he or she invented what is claimed." *In re Gosteli*, 872 F.2d 1008, 1012, 10 USPQ2d 1614, 1618 (Fed. Cir. 1989).

With particular reference to software, the end of the second paragraph in MPEP 2163 I. A. states:

> Compare *Fonar Corp. v. General Electric Co.*, 107 F.3d 1543, 1549, 41 USPQ2d 1801, 1805 (Fed. Cir. 1997) ("As a general rule, where software constitutes part of a best mode of carrying out an invention, description of such a best mode is satisfied by a disclosure of the functions of the software. This is because, normally, writing code for such software is within the skill of the art, not requiring undue experimentation, once its functions have been disclosed. * * * Thus, flow charts or source code listings are not a requirement for adequately disclosing the functions of software.").

It is clear that one skilled in the art would recognize that the techniques described in the specification would be implemented in software from the description. Page 3, lines 1-4 explicitly states that the invention can be partly embodied in a suitable software program. The test for the written description requirement is not the amount of recitation in the specification but whether one skilled in the art would recognize that the inventor invented what is claimed. In addition, the functions of the invention have been disclosed at length

throughout the specification, thus writing code to implement the invention in software would be within the skill of the art.

At least for these reasons, Applicants respectfully submit that claim 8 satisfies the written description requirement of 35 USC 112, first paragraph.

4. Applicants respectfully submit that claims 1 and 9 are not anticipated by Froggatt et al. (US 6,376,830, "Froggatt") under 35 USC 102(b).

Froggatt fails to disclose or suggest coding the first measurement signal with a first code and the second measurement signal with a second code, feeding the first coded measurement signal into the device under test in one direction and the second coded measurement signal in another direction, receiving a signal including a reflected signal from the device under test in response to the first coded measurement signal and a transmitted signal from the device under test in response to the second coded measurement signal, and detecting the reflected and transmitted signals by decoding the received signal with the first and second code, as recited by claims 1 and 9.

Froggatt fails to disclose any coding. The polarization beam splitters 30, 32, referred to by the Examiner, are not used for any coding but are used to isolate the s and p polarization states for each port of the DUT 21. As described in column 5, lines 52-63, this allows the 2 port DUT to resemble a 4 port device. Column 5, line 64 through column 6, line 7, discloses that each port requires its own reference path, measurement path, and detector, and that each the arrangement of Figure 3 is multiplied by the number of ports. As described, there is no need for coding because each port has its own separate reference and measurement path and detector.

Furthermore, the provision of different polarizations is not a viable coding technique unless the DUT is polarization independent. Without this, the DUT affects the polarization in a variable manner that would render any polarization coding ineffective. The polarization coding is changed by the DUT such that the optical power of both polarization axes is affected with no way to sense such a change in the detector.

Still further, Froggatt discloses that the "measurement path lengths must be constructed so that signals at each detector (e.g., detectors 322 and 340) are spatially separated in the time domain" (Column 5, lines 47-49). Again, this eliminates the need for any coding.

In addition, because Frogatt fails to disclose coding, there can be no anticipation of feeding first and second coded measurement signals into a device under test in two directions, and no anticipation of receiving a reflected signal from the device under test in response to the first coded measurement signal and a transmitted signal from the device under test in response to the second coded measurement signal.

Furthermore, Froggatt has no disclosure related to detecting the reflected and transmitted signals by decoding the received signal with the first and second code. A close reading of Froggatt finds no mention of any decoding and no mention of a first and second code.

At least for these reasons, Applicants submit that Froggatt does not anticipate independent claims 1 and 9.

5. Applicants respectfully submit that claims 8, 13-15, and 18-20 are patentable over Froggatt under 35 USC 103(a).

Claims 8, 13-15, and 18-20 depend from claims 1 or 9. As argued above, Froggatt fails to disclose or suggest all the features of claims 1 and 9 and therefore does not render claims 8, 13-15, and 18-20 unpatentable.

6. Applicants respectfully submit that claim 10 is patentable over the combination of Froggatt and of Bloom (US 5,764,348) under 35 USC 103(a).

Claim 10 depends from claim 9.

Bloom fails to supply the features of claim 9 missing from Froggatt, that is, any devices for coding the first measurement signal with a first code and the second measurement signal with a second code, feeding the first coded measurement signal into the device under test in one direction and the second coded measurement signal in another direction, receiving a signal including a reflected signal from the device under test in response to the first coded

measurement signal and a transmitted signal from the device under test in response to the second coded measurement signal, and detecting the reflected and transmitted signals by decoding the received signal with the first and second code.

Therefore the combination of Froggatt and Bloom fails to disclose or suggest all the features of claim 10 and fails to render claim 10 unpatentable.

7. Applicants respectfully submit that claims 12, 16, and 21 are patentable over the combination of Froggatt and Yamashita (US 6,426,792) under 35 USC 103(a).

As argued above, Froggatt fails to disclose or suggest any coding at all.

As properly pointed out by the Examiner, Froggatt fails to disclose or suggest coding the first and second measurement signals by modulating the first measurement signal with a first frequency and the second measurement signal with a second frequency, as recited by claims 12, 16, and 21.

Yamashita also fails to disclose or suggest this feature. Yamashita discloses intensity modulation of both a variable wavelength and fixed wavelength light. Column 6, lines 21-27 states:

> The oscillator 14 generates and supplies an electric signal of a predetermined frequency f to the first and second optical modulators 15a and 15b.
>
> The first optical modulator 15a performs intensity modulation of variable-wavelength light to the frequency f. The second optical modulator 15b performs intensity modulation of fixed-wavelength light to the frequency f.

Thus, Yamashita performs intensity modulation of both signals at the same frequency. In addition, Yamashita fails to explicitly disclose coding.

Therefore, the combination of Froggatt and Yamashita fails to disclose or suggest coding the first and second measurement signals by modulating the first measurement signal with a first frequency and the second measurement signal with a second frequency, as recited by claims 12, 16, and 21 and fails to render these claims unpatentable.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,

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